

REMARKS

Claims 17-21, 25, 26 and 37-43 are pending. Amendment of claim 39 is proposed after final rejection. Claims 17-21, 25, 26, 37 and 38 stand withdrawn from consideration.

The Examiner again objects to the Amendment filed 9/9/99 and the Amendment filed 12/14/01 as introducing new matter. This rejection is respectfully traversed.

In the Examiner's remarks on page 8 relating to the objections, the Examiner cites a decision (Ex parte Bondiou) that an applicant can not rely on the disclosure of a foreign priority application to support correction of an error in a pending application.

The decision cited by the Examiner involved a situation in which the originally filed specification stated a period of heating as being 4 hours whereas the claim specified heating for 4 days. The applicant's French priority application was asserted as a basis that the error was an obvious translational error. The decision held that there is nothing in the original disclosure which would lead one skilled in the art to conclude that the original disclosure of heating for 4 hours was in error. An applicant is not permitted to add new matter in order to disclose what he intended even though it can be shown that it was part of the original invention and had been inadvertently omitted from the original specification.

The facts of the decision, however, differ from the facts in the present situation. In particular, the decision makes it clear that there are certain instances where applicants have been permitted to amend their disclosures in order to correct errors therein, but only in those cases wherein the error is apparent on the face of the application, and the corrections do not change the essence of the invention. This situation applies to the present facts.

In regard to the Amendment filed on 9/9/99, the specification was amended to include silver among tin and zinc which is replaceable for the indium of the eutectic alloy. This Amendment is entirely consistent with the original disclosure and this error is apparent on the face of the application and correction would not change the essence of the invention. As repeatedly pointed out, claim 23 states that the first metal layer is selected from the group consisting of tin, indium, silver, and zinc. This disclosure entirely provides support for correcting the apparent error and does not change the essence of the invention.

The Amendment filed 12/14/01 also is consistent with the above facts. This Amendment added sentences to the disclosure corresponding to the language of original claims 22 and 23.

The Examiner comments that the Japanese priority document was relied upon as support for the Amendments. However, the Japanese priority document was filed in response to the Examiner's requirement for information. Applicants have repeatedly pointed out support in the original disclosure. The Japanese priority document was provided as further evidence that the original disclosure provides support for the amendment wherein the error is apparent on the face of the application and the corrections do not change the essence of the invention.

Claims 39-43 were rejected under 35 U.S.C. §112, first paragraph. The Examiner does not consider claim 39 as having support for "wherein the first surface of the first electrode is not contacted with molten soldering metal throughout an entire manufacturing process of the integrated electronic device." In this rejection, it is presumed that it is the Examiner's position that since the specification does not specifically state this limitation, the limitation is considered not enabled.

Claims 39-43 were also rejected under 35 USC §112, second paragraph. Favorable

reconsideration is requested in view of the proposed amendment of claim 39.

Applicants propose amendment of claim 39 to remove the language objected to by the Examiner. According, the proposed amendment of claim 39 places the claims in full compliance with 35 USC §112. As such, entry of the proposed amendment after final rejection is earnestly solicited.

The Examiner again makes a requirement for information under 37 CFR §1.105 to provide support in the disclosure for the Amendment filed December 14, 2001. However, support for the amendment is provided by the original claims as noted above.

Claims 39 and 41 were rejected under 35 U.S.C. §102(b) as anticipated by Behun. In this rejection, the Examiner argues that the surface of the first electrode 12 which contacts the substrate does not contact molten solder during the entire manufacturing process of the integrated electronic device. Favorable reconsideration of this rejection is respectfully requested.

As shown in Fig. 1B of Behun, the first electrode is connected directly with both the first and second soldering metal bumps 18, 13 during the heating and subsequent cooling- down processes. As such, Behun does not anticipate the proposed amended claims.

Claims 40 and 43 were rejected under 35 U.S.C. §103(a) as being unpatentable over Behun in further combination with Hideshima. In this rejection, the Examiner acknowledges that Behun does not teach the limitations set forth in claims 40 and 43. Hideshima is applied by the Examiner for allegedly rendering the features of these claims obvious.

There would have been no motivation to combine the references in the manner suggested by the Examiner. If the first electrode 12 of Behun is replaced by the repellant metal of Hidejima, the molten soldering metal bump 13 is repelled by the first electrode 12 and resultantly, the same

favorable result as shown in Fig. 1B can not be obtained. Therefore, it is hardly possible that such a combination would provide a reasonable expectation of success. Furthermore, the combination fails to provide teachings noted above.

Claim 42 was rejected under 35 U.S.C. §103(a) as being unpatentable over Behun further in combination with Idaka et al. Idaka et al is newly cited by the Examiner for its disclosure of a trapezoidal cross section.

Although Idaka et al may show a trapezoidal cross section, the Examiner must point out some reason why one of ordinary skill in the art would have been motivated by the teachings of Idaka et al to modify Behun et al. The Examiner provides no reasons other than that Idaka et al teaches such a shape. Since it is apparent that the trapezoidal metal bump in Idaka et al must have an upper side longer than the bottom side thereof for its purpose, and does not mention anything about the upside down trapezoidal metal bump as shown in the present invention, it is a logical conclusion that there is no suggestion or teaching of a combination of the upside down trapezoidal metal bump with the technique of Behun.

For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by Applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone Applicants' undersigned attorney.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully Submitted,

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